DOCUMENT RESUME

ED 087 725 SP 007 704

TITLE	Elementary Education, 312:340, Modules 1-5.
INSTITUTION	Toledo Univ., Ohio. Coll. of Education.
NOTE	61p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Demonstrations (Educational); Educational Development; Educational Innovation; *Elementary Education; Elementary School Teachers; *Performance Based Teacher Education; *Preservice Education; *Teacher Education; *Teacher Education Curriculum
IDENTIFIERS	*Learning Modules; Ohio Model

ABSTRACT

This course syllabus includes revised competency-based elementary teacher education learning modules that were developed at the University of Toledo as part of the Ohio Model. The module titles are a) Teaching Science in the Elementary School, b) Concept Attainment, c) Social Studies Planning, d) Selection and Application of Instructional Media in the Field, e) Self-Management, and f) Field Experience and Planning of an Interdisciplinary Unit. Each learning module includes a list of prerequisite modules, an overview of the module, objectives of the module, learning activities and materials, and assessment procedures and implements. (See related documents: SP 007 693, 007 701, 007 702, 007 703, and 007 705.) (HMD)

ED 087725

Elementary Education

312:340

Modules 1-5

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

SP 007 704

THE UNIVERSITY OF TOLEDO

COMPETENCY BASED TEACHER EDUCATION PROGRAM

ELEMENTARY TEACHING AND LEARNING I

312:340

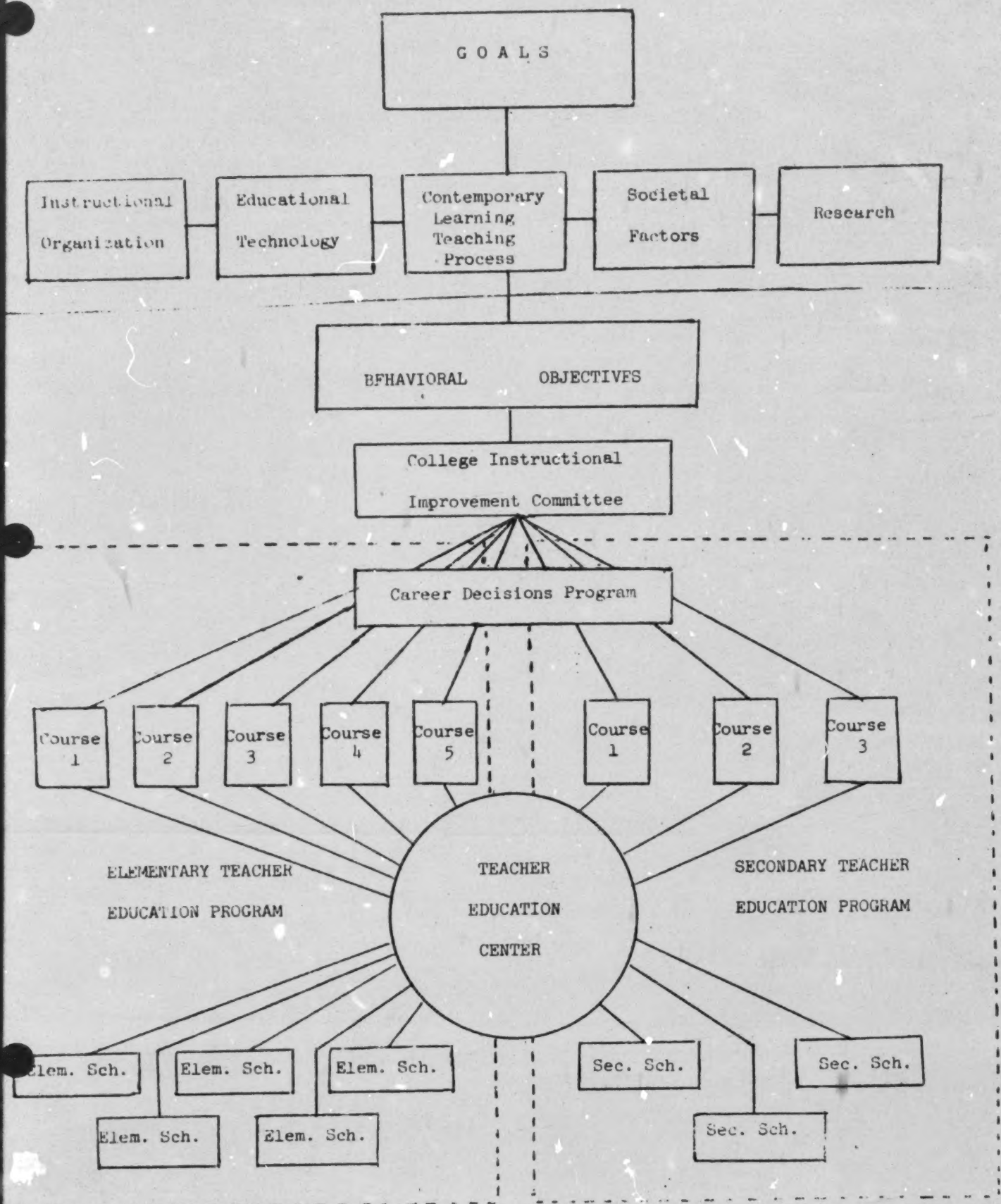
1. Teaching Science in the Elementary School
2. Concept Attainment
3. Social Studies Planning
4. Selection and Application of Instructional Media in the Field
5. Self-management
6. Field Experience and Unit Planning of an Interdisciplinary Unit

Included in this notebook are the revised CBTE Modules. New materials as well as handouts which should not be considered prior to their exposure in class, will be distributed by the instructors at the appropriate time. Your reactions to these materials are earnestly solicited and formal assessment deivces will be administered periodically to get that feedback. The University of Toledo has developed a model for teacher education and with your assistance we will be able to perfect it.

The University of Toledo CBTE program involves complete attention to all groups involved with teacher preparation and the continued improvememt of teachers. For additional information related to the rationale and the other phases of the program (secondary and in-service) the reader is referred to the following four Educational Comment booklets; "Contexts for Teacher Education" 1969; "The Ohio Model and The Multi-Unit School 1971, Field-Based Teacher Education: Emerging Relationships" 1972 "Teacher Education for an Urban Setting, and Partners for Educational Reform and Renewal: Competemcy-Based Teacher Education, Individually Guided Education, and Multi-Unit School by Dickson, Saxe, et.al. The latter is published by McCutchan Publishing Corp. and the booklets by the University of Toledo College of Education. The diagram on the following page, illustrates the interrelationship between the goals of program, the structure of the curriculum and the laboratory (the schools).

BEST COPY AVAILABLE

A MODEL OF A COMPETENCY BASED TEACHER EDUCATION PROGRAM



University of Toledo

Course 312:340

Module 01: Teaching Science in the Elementary School

Fall 1973 Revision/Underfer

312:340

Module One

I. Department/Context: Instructional Organization

II. Topic: Necessary Training for Instruction

III. Title: Teaching Science in the Elementary School

IV. Prerequisites: 312:324 (328 preferably)

V. Behavioral Objectives: At the end of this module, the student should be able to satisfy (completely) 80% of the following:

Objectives:

1. At the end of this course, with 80% accuracy, you should be able to:

   1. State in written form why past approaches to the teaching of science in the elementary school are no longer valid for today's children.

   2. Write five objectives for a given science activity (three is congitive and two in affective domains) with the aid of references such as elementary school science curriculum materials, curriculum guides and/or textbooks. The objectives should A,B,C,D.

      a.) They are in performance terms.
      b.) They give the conditions under which the performance is expected.
      c.) They give the desired level of performance.
      d.) They include all the desired outcomes of instruction.

2. Describe three situations in which students can raise questions; two situations which would illustrate willingness of the teacher to wait for an appropriate response from her students rather than tell the "correct" answer; and state three questions which promotes THINKING ($\frac{1}{2}$ above recall level) from students rather than a single "right" answer.

3. List five attributes of a good questioning technique.

4. List five advantages of open-ended experiments.

5. List three characteristics which make you a creative person and will Gerilford's Model make you a creative teacher.

6. Using a specific science lesson, present the same lesson in a divergent and convergent manner contrasting the two, pointing out the assets and liabilities of each.

7. Construct a "discrepant event" which could be used for motivating elementary school students to investigate a problem in science.

8. Identify the similarities and differences between the AAAS, SCIS, and ESS curriculum projects in elementary science.

9. State six ways in which science instruction may be designed for each individual student.

10. Distinguish between observations and inferences.

11. Construct statements of expected observations based on past observations.

12. Construct a classification of a set of objects and name the observable properties on which the classification is based.

13. Identify variables which may influence the behavior or the properties of a physical or biological system; identify variables which are manipulated, responding, or held constant in an experiment; construct a test to determine the effects of one or more variables on a responding variable.

14. Distinguish between operational and nonoperational definitions.

VI. Instructional Activities: By Objective Numbers

1. Film classrooms in transition.
2-9 Covered in the textbook or discussions.
8-14 Laboratory stations will demonstrate in an individualized manner each of these objectives as well as illustrating objectives 2, 4, 6, and 7.

VII. Preassessment: Paper and pencil test covering objectives 1 through 9 and performance activities related to objectives 10 through 14.

Word and Phrase Categories

1. Instructional Design and Systems Components
2. Materials Development
3. Values
4. Behavior Management
5. Teacher Strategies
6. Structure of Knowledge
7. Concept Learning

Discrepent Event

Springboard

Relevant Attribute

Concept

Non-oral Teaching

Bridging

Preassessment

Inquiry

Perception

Conceptualization

Application

Media

Values Clarification

Comprehension

Application

Analysis

Taxonomy

Cognitive

Behavioral

Quest

Discovery

Behavior Management

Positive Reinforcement

Simulation

Programmed Instruction

Individual Instruction

Praise Statements

Tangible Reinforcers

Social Reinforcers

Advanced Organizor

Recycle

Pictoral Riddle

Self Pacing

Transfer

Classification

Inferring

Hypothesizing

Generalizing

The Elementary Science Study (ESS) Units

** (1) Animal Activity

** (2) Animals in the Classroom

**** (3) Attribute Games and Problems

* (4) Balloons and Gases

* (5) Batteries and Bulbs I

* (6) Batteries and Bulbs II

** (7) Behavior of Mealworms

** (8) Bones

** (9) Brine Shrimp

** (10) Budding Twigs

** (11) Butterflies

* (12) Changes

* (13) Clay Boats

* (14) Colored Solutions

** (15) Cray fish

* (16) Daytime Astronomy

* (17) Drops, Streams and Containers

** (18) Earthworms

** (19) Eggs and Tadpoles

* (20) Gases and Airs

**** (21) Geo Blocks

** (22) Growing Seeds

* (23) Heating and Cooling

* (24) Ice Cubes

* (25) Kitchen Physics

** (26) Life of Beans and Peas

* (27) Light and Shadows

**** (28) Mapping

**** (29) Match and Measure

** (30) Microgardening

* (31) Mirror Cards

* (32) Mobiles

** (33) Mosquitoes

* (34) Musical Instrument Recipe Book

* (35) Mystery Powders

* (36) Optics

**** (37) Pattern Blocks

**** (38) Peas and Particles

* (39) Pendulums

** (40) Pond Water

* (41) Primary Balancing

**** (42) Printing Press and Materials for Printing

*** (43) Rocks and Charts

*** (44) Sand

* (45) Senior Balancing

* (46) Sink or Float

** (47) Small Things

* (48) Spinning Tables

** (49) Starting From Seeds

* (50) Stream Tables

**** (51) Structures

**** (52) Tangrams

** (53) Tracks

* (54) Water Flow

*** (55) Where Is the Moon?

* (56) Whistles and Strings

* Physical Science

** Biological Science

*** Earth Science

**** General Skills

PROFILE OF YOUR SCIENCE PROCESS SKILLS

NAME_____ PRE-TEST DATE_____

SECTION_____ POST-TEST DATE_____

SCIENCE PROCESS	NUMBER PTS. POSSIBLE	PRE-TEST SCORE	POST-TEST SCORE
I. OBSERVING	6		
II. INFERRING	8		
III. CLASSIFYING	11		
IV. COMMUNICATING-PREDICTING	12		
V. INSTRUCTIONAL OBJECTIVES	8		
VI. EXPERIMENTING-FORMULATING HYPOTHESIS	10		
VII. INTERPRETING DATA	8		
VIII. CONTROLLING VARIABLES	10		
IX. DEFINING OPERATIONALLY	5		
TOTALS	78		

RE: Science Kits and materials which have been received lately and are available for use in classes in which University students are involved.

AAAS Science - A Process Approach

All of the teacher's guides which have been made available commercially have been purchased for grades K-5. Most of the activities do not necessitate special materials and can be obtained locally with little or no expense. The teacher training kit has also been purchased, and the special equipment used with Inferring with Electrical Circuits and measuring in the Metric System are contained in it.

ESS (Elementary Science Study)

Growing Seeds (K-8)
Through continuing observation, children learn to distinguish seeds from objects closely resemble them.

Tangerms (K-8)
Given the seven-piece tangerm puzzle, children are asked to put basic shapes together to form new shapes.

Mystern Powders (3-7)
Students become familiar with some ordinary white powders and the use of indicators in identifying them and detecting their presence in mixtures.

Where is the Moon (3-7)
Students investigate the changing positions of the moon over a three-month period by direct observations. They are asked to make predictions.

Small Things (4-6)
Students are introduced to the microscopic world and to the differences in appearances and structure of living and non-living things.

Bones (4-6)
Through a series of activities involving skeletons, children become familiar with a variety of real bones, notice the similarities and differences among them, and have a chance to assemble skeletons on their own.

Micro-gardening (4-7)
An introduction to molds minus a group of microscopic living things with which they are familiar.

Kitchen Physics (5-7)
Students investigate the properties of some common liquids-- water, soapy water, oil, alcohol, and syrup. It considers the attributes of the liquids and how they are absorbed, evaporate, drop, stream, and interact with various surfaces.

The other ESS units which we have teacher's manuals for are listed below. Most of these require simple materials which may be found around the school easily.

Primary balancing	Eggs and tadpoles	*Peas and particles
Light shadows	Mobiles	*Batteries and bulbs
Pattern blocks	Ice cubes	Behavior and mealworms
Geo blocks	Rocks and charts	Gasses and the airs
		*Clay boats

*(Supplementary Materials Available in 377 Snyder Building)

Related Materials and Experiences-Science Methods

Books and References

*Explore With Me by Sally DeRoo (from the ITV series)

Study Prints from Encyclopedia Britannica Press - A set of large pictures with explanations etc. on the back. Cost equals $7.50 for a set of five or six?

*100 Invitations To Investigate by Brandenwein

*Laidlaw Science Series for Fifth and Sixth Grade

Science Experiments With 10¢ Store Equipment

Cambridge Books for 1-6 - Highly traditional but inexpensive and self-explanatory. Cost $1.65 for the books which may be consumable.

Equipment

Micro-slide viewers - inexpensive but misleading because students think they are actual microscopes.

Boxes for storage - Whiskey boxes come in handy

Shoes polish - white may be used for directions for activities such as treasure hunts.

*Materials which have been recommended to me.

Bibliography

A. General Teacher References

* Anderson, etc. Developing Children's Thinking Through Science. Prentice-Hall, Inc., 1970, $9.95.

Bale, R. O. Stepping Stones to Nature. Burgess, 1960.

Bale, R. O. Conservation for Camp and Classroom. Burgess, 1962.

Beauchamp, Wilbur L. and Challand, H. J. Basic Science Handbook K-3. Scott Foresman & Company, 1961.

* Blough, Glenn Orlando. Elementary School Science and How to Teach It. Holt, Rinehart & Winston, 1964.

* Blough, G. O. and Campbell, M. Making and Using Classroom Science Materials. New York: Dryden Press, 1954.

Bronowski, J. Science and Human Values. New York: Harper and Row, 1956.

* Burnett, R. W. Teaching Science in the Elementary School. New York: Rinehart and Co., 1953.

Carin, Arthur. Discovery Teaching in Science. Columbus, Ohio: Merrill, 1966.

* Carin, Arthur and Sund, Robert S. Teaching Science Through Discovery. Columbus, Ohio: Chas. Merrill Books, 1970.

Conant, James B. On Understanding Science. New Haven: Yale University Press, 1947.

Conant, James B. Science and Common Sense. New Haven: Yale University Press, 1951.

* Craig, Gerald S. Science for the Elementary School Teacher. Waltham, Massachusetts: Blaisdell Publishing Company, 1966.

Educators Guide to Free Science Materials. Randolph, Wisconsin: Educators Progress Service.

Erickson, Jay William. The Earth in Space: A Source Book for Elementary School Teachers, 1965.

Freeberg, W. H. and Taylor, L. E. Programs in Outdoor Education. Burgess 1963.

Fuller, Elizabeth Mechem. Learning How to Use the Five Senses. Minneapolis, 1961.

Fuller, Elizabeth Mechem. Wading into Science. Minneapolis, 1961.

Fuller, E. M. and Ellis, M. J. Springboards to Science. T. S. Denison, 1959.

Gabrielson, M. A. and Holtzer, C. The Role of Outdoor Education. Center for Applied Research in Education, 1965.

Gans, R. and Stendler, C. Teaching Young Children in Nursery School, Kindergarten and Primary Grades. Harcourt, Brace & World.

* Gega, Peter C. Science in Elementary Education. New York: Wiley, 1970.

Goldstein, Phillip. How to Do an Experiment. New York: Harcourt, Brace & World, Inc., 1957.

Hennessy, David E. Elementary Teacher's Classroom Science Demonstrations and Activities. Englewood Cliffs, New Jersey: Prentice-Hall, 1964.

Henry, Nelson B. (ed.). Rethinking Science Education. Fifty-Ninth Yearbook of the National Society for the Study of Education, Part I. Chicago: University of Chicago Press, 1960.

Herrick, Virgil E. and Nerbovig, Marcella. Using Experience Charts with Children. Charles E. Merrill Books.

* Hone, Elizabeth and Joseph, Victor. A Sourcebook for Elementary Science. Harcourt, Brace, 1962.

Hubler, C. Working with Children in Science. Houghton, Mifflin Company, 1957.

Hurd, Paul DeHart and James J. Gallagher. New Directions in Elementary Science Teaching. Belmont, California: Wadsworth Publishing Company, Inc., 1968.

Jacobson, Willard J. and Harold E. Tannenbaum. Modern Elementary School Science. New York: Bureau of Publications, Teacher's College, Columbia University, 1961.

Joseph, E. D. The Teaching of Science in Tropical Primary Schools. Oxford University Press, 1958.

Kambly, P. E. and Suttle, J. E. Teaching Elementary School Science. Ronald, 1963.

Karplus, Robert. One Physicist Looks at Science Education. Berkeley, California: Science Curriculum Improvement Study, 1963.

Karplus, Robert and Herbert D. Thier. A New Look at Elementary School Science: Science Curriculum Improvement Study. Chicago: Rand McNally and Company, 1967.

* Kuslan, Louis I. Teaching Children Science: An Inquiry Approach. Belmont, California: Wadsworth Publishing Company, 1968.

Kuslan, Louis I. and A. Harris Stone. Readings on Teaching Children Science. Belmont, California: Wadsworth Publishing Company, Inc., 1969.

Lachman, Sheldon J. The Foundations of Science. Third Edition. New York: Vantage Press, 1965.

* Lansdown, Blackwood and Brandwein. Teaching Elementary Science Through Investigation and Colloquium. Harcourt, Brace, Jovanovich, Inc., 1971.

Lee. New Developments in Science Teaching. Wadsworth Publishing Company, 1967.

Lewis, June E. and Potter, I. C. Teaching of Science in the Elementary School. Prentice-Hall, 1961.

Mager. Preparing Instructional Objectives. Fearon Publishing Company, 1962.

National Aerospace Education Council, Washington D.C. (Source of wide selection of teaching resources in elementary school science.)

National Science Teachers Association. Helping Children Learn Science. 1966.

National Science Teachers Association. Investigating Science with Children Series. NSTA, 1964.

Living Things. Vol. 1, (Wailes).

The Earth. Vol. 2, (Hubbel).

Atoms and Molecules. Vol. 3, (Trieger).

Motion. Vol. 4, (Dunn).

Energy in Waves. Vol. 5, (Cox).

Space. Vol. 6, (Costa).

National Science Teachers Association. "How To" Series. NSTA, 1966.

How to Care for Living Things.

How to Record and Use Data in Elementary School Science.

How to Teach Science Through Field Studies.

How to Utilize the Services of a Science Consultant.

How to Individualize Science Instruction in the Elementary School.

Navarra, John Gabriel and Zaffaroni, J. Science Today for Elementary School Teaching. Row, Peterson, 1960.

Nelson, L. W. and Lorbeer, G. C. Science Activities for Elementary Children. Fourth Edition. W. C. Brown & Company, 1967.

New York Board of Education. Operation New York: Using the Natural Environment of the City as a Curriculum Source. Board of Education of the City of New York Bureau of Curriculum Research, 1960.

Ohio Forestry Association. A Guide to Teaching Conservation in Ohio Elementary Schools. Ohio Forestry Association, 1961.

Ohio State Department of Education. Science Education for the Elementary Schools of Ohio. 1945.

* Piltz, Albert and Sund, R. Creative Teaching of Science in the Elementary School. Allyn & Bacon, 1968.

Postman, Neil and Charles Weingartner. Teaching as a Subversive Activity. New York: Delacorte Press, 1969.

Raubinger, Frederick and Harold G. Rowe. The Individual and Education. New York: The Macmillan Company, 1968.

Renner, J. W. and Ragan, W. B. Teaching Science in the Elementary School. Harper & Row, 1968.

Rogers, Carl R. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Books, Inc., 1969.

* Rogers, Vincent R. Teaching in the British Primary School. Toronto: Macmillan, 1970.

Salem, Donald. Science Experiences for Elementary School Teachers. Englewood Cliffs, N. J.: Prentice-Hall.

* Sanders, Norris. Classroom Questions What Kinds? New York: Harper and Row, 1966.

Science for Today's Children. Thirty-Second Yearbook, Bulletin of Department of Elementary School Principals. Washington, D.C.: NEA, 1953.

Schwab, Joseph J. and Paul F. Brandwein. The Teaching of Science. Cambridge: Harvard University Press, 1962.

Selberg, etc. Discovering Science in the Elementary School. Addison Wesley, 1970.

Shapp, Martha. Planning and Organizing Science Programs for Elementary Schools. Grolier Society, 1959.

Sheckles, M. Building Children's Science Concepts. Bureau of Publications, Teachers College, Columbia University, 1958.

*Smith, James A. Setting Conditions for Creative Teaching in the Elementary School, Allyn & Bacon Inc., 1966.

Stapp, W. B. Integrating Conservation and Outdoor Education into the Curriculum (K-12), Burgess, 1965.

*Stone, Geis and Kuslan - Experiences for Teaching Children Science, Wadsworth Publishing Company, 1971.

*Sund, Robert B., et al. Elementary Science Teaching Activities. Columbus, Ohio: Charles E. Merrill Books, Inc., 1967.

Tannenbaum, Harold E., et al. Science Education for Elementary School Teachers. Boston: Allyn and Bacon, 1965.

Thaw, R. E. and Morlin J. E. Demonstrations in Elementary Physical Science, W. C. Brown, 1965.

Thier - Teaching Elementary School Science - A Laboratory Approach, D. C. Heath and Company, 1970.

*UNESCO. UNESCO Sourcebook for Science Teaching. Amsterdam: Drukkerij Holland N.V., 1958.

*Victor, Edward, Science for the Elementary School, New York: MacMillan, 1965.

Victor, E. and Lerner, M. Readings in Science Education for the Elementary School, MacMillan, 1967.

Zafforoni, Joseph. New Development in Elementary School Science, NSTA, 1963.

B. Yearbooks

Rethinking Science Education, University of Chicago Press, 1960, 59th Yearbook of the National Society for the Study of Education Part I.

Science Education in American Schools, University of Chicago Press, 1947, 47th Yearbook of the National Society for the Study of Education Part I.

Science for Today's Children, #33 National Elementary Principals Department, NEA 1955, 32 Yearbook.

A Program for Teaching Science, University of Chicago Press, 1932, 31st Yearbook of the National Society for the Study of Education Part I.

C. Periodicals for Teachers

School, Science and Mathematics by Central Association of Science and Mathematics Teachers.

The Science Teacher by the National Science Teachers Association (NSTA).

Scientific American by Scientific American, Inc.

Science by American Association for the Advancement of Science (AAAS).

Journal of Research in Science Teaching by National Association for Research in Science Teaching (NARST).

Science Education News by the American Association for the Advancement of Science (AAAS).

Elementary School Science Bulletin by The National Science Teachers Association.

*Science and Children (formerly the Elementary School Science Bulletin) by the National Science Teachers Association.

National Wildlife by the National Wildlife Federation.

Arizona Highways by Arizona Highway Commission.

*Teacher by Teachers Publishing Corporation (formerly Grade Teacher).

Instructor by the Instructor Publications Inc.

Periodicals for Children

Nature and Science by the American Museum of Natural History.

Science and Math Weekly by the American Education Publications, Inc., Middletown, Connecticut.

Current Science by Wesleyan University, Middletown, Connecticut.

Science News by Science Service, Inc.

Science World by Scholastic Magazine.

Ranger Rick by National Wildlife Federation.

D. Additional Periodicals and Phamphlets for Teachers and Students

American Association for Advancement of Science, Science Books: A Quarterly Review.

Audubon Magazine

Canadian Nature Magazine, Conservation and Nature Activities, Audubon Society of Canada.

Conservation in Action, (See Ohio Woodlands).

Cornell Science Leaflet, Cornell University Science Leaflets, Stone Hall, Cornell University, Ithaca, New York.

Current Science and Aviation, American Educational Publications, Education Center, Columbus, 16, Ohio.

Geotimes, Washington, D. C.

Junior Natural History, American Museum of Natural History.

Metropolitan Detroit Science Review.

National Parks Magazine, National Parks Association, Washington, D. C.

Natural History, American Museum of Natural History, New York.

National Wildlife, National Wildlife Federation, Washington, D. C.

Nature & Science, American Museum of Natural History, New York.

Ohio Woodlands & Conservation in Action, Ohio Forestry Association, Southern Hotel, Columbus, Ohio.

Outdoors Illustrated, National Audubon Society, New York.

Popular Science Monthly, Popular Science Publishing Company, New York.

Science Digest, New York.

Science Information Notes, Superintendent of Documents, Washington, D. C.

Science World, Scholastic Magazines, New York.

Sky and Telescope, Sky Publishing Corp. Harvard College Observatory, Cambridge, Mass.

Tomorrow's Scientists, National Science Teachers Association, Washington, D. C.

UNESCO Courier, The UNESCO Publications Center, New York.

Weatherwise, American Meteorological Society, Massachusetts.

E. Commercial publishers textbook series available in Carver Curriculum Materials Center. Usually for grades K-6.

*Physical Science: A Lab Approach, Addison Wesley.

*Exploring Science, Allyn and Bacon.

*Investigation in Science, American Book Company.

*Concepts in Science, Harcourt Brace and Javanovich.

*Energy, Matter, Harcourt Brace and World.

*Todays Basic Science, Harper and Row.

*Science, D. C. Heath.

*Modern Elementary Science, Holt Rinehart and Winston.

*Science, Laidlaw.

*Matter Life and Energy, Lyons and Carnahan.

*Science, Macmillan.

*The Basic Science Program, Scott Foresman.

*Science, Silver Burdett.

F. Current curriculum projects dealing with many varied topics and activities for children. Also available in Carver Curriculum Materials Center.

*Engineering Concepts Curriculum Project (ECCP)

*Elementary Science Study (ESS)

*American Association for the Advancement of Science Project (AAAS) or (SAPA)

*Science Curriculum Improvement Study (SCIS)

*Elementary School Science Project - University of Illinois (ESSP U of I)

*Minnesota Mathematics and Science Teaching Project (MINNEMAST)

*Conceptionally Oriented Program in Elementary Science (COPES)

G. Publications Dealing with Curriculum Projects

*AAAS/Xerox Corporation: Science - A Process Approach, Commentary for Teachers, Xerox Corporation, Education Division, 1970, $7.00.

*SCIS Elementary Science Sourcebook, Science Curriculum Improvement Study, University of California, Berkeley, 94720, $1.00.

*A Working Guide to the Elementary Science Study, Education Development Center, 55 Chapel Street, Newton, Massachusetts, 02160, $3.00.

*The ESS Reader - Education Development Center, 55 Chapel Street, Newton, Massachusetts, 02160, $2.00.

University of Toledo

Course 312:340

Module 02: Concept Attainment

Fall 1973 Revision Meinke/Ahern

312:340

Module Two

I. Department/Context: Contemporary Learning and Teaching Process

II. Topic: Cognitive Domain

III. Title: Concept Attainment

IV. Overview:

Meaningful learning involves higher level thinking processes such as concept attainment, generalizing, and problem solving. This module emphasizes teaching for and assessment of concept attainment.

V. Introduction:

One of the most important tasks for a learner as he acquires information in order to deal more effectively and efficiently with his environment is the acquisition and retention of concepts. The learning of concepts, then, is a high priority activity of pupils in most classrooms. Teachers must, therefore, develop the skills necessary to help them facilitate the learning of concepts among their students. The purpose of this instructional module is to help pre-service teachers understand the meaning of a concept and to provide the opportunity to experience the acquisition of new concepts.

VI. Objectives:

1. The student will define "concept" in his own words including attributes, examples, and nonexamples.

2. Given a concept of his choice, the student will define the concept in his own words including attributes, examples, and nonexamples.

3. From memory, the student will list at least 3 functions of concepts.

4. Given a concept of his choice, the student will teach either a concept lesson or a non-oral concept lesson according to the criteria on checklists 2A and 2B of the Field Experience Module.

VII. Preassessment:

(See post-test and checklists in Field Experience Module

VIII. Learning Activities

1. Read Three Teaching Strategies for the Social Studies Chapter 1. Do activity pages 7, 28, and 61.

2. Concept "Card Game"

3. Concept identification exercise

4. Discuss structure and functions of concepts:

   a. attributes (positive and negative)
   b. examples and non-examples
   c. functions

5. Concept formation Task

6. Demonstration of Concept Attainment

   a. Kinds of Concepts
      1. Conjunctive
      2. Disjunctive
      3. Relational
      4. Uni-demensional
      5. Complex
   b. Bruner's selection strategies
      1. Gambling Focusing
      2. Successive Scanning
      3. Simultaneous Scanning
      4. Conservative Focusing

7. Applications to Classroom Situation

   a. Klausmeier principles
   b. Taba strategy
   c. Freedom - Justice Concepts

8. Identify concepts related to students; unit planning-teaching. Discuss attributes and examples for selected concepts. Write on board.

9. Analyze model for evaluating concept learning (see enclosed) and sample concept attainment exercises (enclosed). Discuss and develop possible ways to measure concept learning.

10. Analyze inductive and deductive approaches to teaching concepts.

11. Develop lesson plan (see checklists 2A and 2B of Field Experience Module

IX. Post Assessment:

(see enclosed post-test and checklists 2A and 2B of Field Experience Module.

Card Game:

1. Arrange 52 playing cards randomly in rows and columns on a cardboard.

2. Present the board to the class. Tell them "I'm thinking of a group of cards. Guess what it is. I will answer 'yes' or 'no' only."

3. At this point students will pick the group of cards on the basis of attributes ("are they all black, Jacks, hearts", etc.

4. You then tell them you will answer 'yes' or 'no' to a single instance, that is, they must now choose a card and ask if it is an instance of the concept (group of cards you choose).

5. During this procedure, students are encouraged to identify all possible attributes on the board, and to plan strategies for identifying the concept as a group.

6. Examples of concepts you may choose:
   all red cards
   all red cards in the second row
   all even cards
   all black, profile facecards

The University of Toledo
Department of Educational Psychology

Concept Formation

Five concepts are presented in the list of words below, each represented by a nonsense word. The nonsense words appear opposite each word. Find the concept which unites the word with the same nonsense word.

1.	mare	trab	14.	cow	trab
2.	cat	klej	15.	horse	flag
3.	puma	manx	16.	lamb	uran
4.	tiger	manx	17.	zebra	manx
5.	colt	uran	18.	pig	klej
6.	elephant	flag	19.	hyena	manx
7.	goat	klej	20.	vixen	trab
8.	calf	uran	21.	cub	uran
9.	wolf	manx	22.	ass	flag
10.	dog	klej	23.	sheep	klej
11.	sow	trab	24.	kitten	uran
12.	ox	flag	25.	camel	flag

Klej represents the concept_____

Manx represents the concept_____

Uran represents the concept_____

Flag represents the concept_____

Trab represents the concept_____

MODEL FOR EVALUATING CONCEPT LEARNING

The following model suggests thirteen dimensions of concept learning that may be evaluated to determine mastery.[2] Teachers may wish to apply only some of the items to their instructional objectives; the items lend themselves to having students either select or generate a correct solution. As with all such schema, teachers will want to make adaptations to meet special classroom or subject-matter needs.

The thirteen dimensions relate to discrimination of attributes, identification of concept exemplars and nonexemplars, labeling concept instances, differentiation of relevant and irrelevant attributes, defining the concept, relating the concept to supraordinate, coordinate and subordinate concepts, indicating the appropriate relationship between the appropriate relationship between relevant generalizations.[3] Illustrations of the thirteen dimensions applied to the subject-matter areas of language arts and mathematics may be found in A Scheme for Testing the Level of Concept Mastery by Frayer, Frederick, and Klausmeier.[4]

1. Given the name of an attribute value, the student can select the example of the attribute value.
2. Given an example of an attribute value, the student can select the name of the attribute value.
3. Given the name of a concept, the student can select the example of the concept.
4. Given the name of a concept, the student can select the nonexample of the concept.
5. Given an example of a concept, the student can select the name of the concept.
6. Given the name of a concept, the student can select the names of the relevant attribute values of the concept.
7. Given the name of a concept, the student can select the names of the irrelevant attributes of the concept.
8. Given the definition of a concept, the student can select the name or the concept.
9. Given the name of a concept, the student can select the correct definition of the concept.
10. Given the name of a concept, the student can select the name of a concept supraordinate to it.
11. Given the name of a concept, the student can select the name of a concept subordinate to it.
12. Given the name of two concepts, the student can select the generalization which relates them.
13. Given a problem, the student can select the correct answer by applying a generalization.

Measuring Concept Attainment, Formation, or Application

1. We have played the grouping game in class. Now you are going to play the game by yourself. Look at the words below carefully and write your answer in the blank. Remember, the game goes like this:

   Question: Would you like to be a carrot?
   Answer: Yes, I would like to be a food; or
   No, I would not like to be a vegetable

   A. Would you like to be a triangle?

   Answer:

   B. Would you like to be an ant?

   Answer:

   C. Write as many answers as you can to the following:

   Would you like to be a toad?
   Answer on the back of this page please.

2. Look at the statements below. Which ones are statements about all mammals? Underline each statement that has to do with all (or almost all mammals).

   A. They lay eggs
   B. They have four legs
   C. They have hair
   D. They have a backbone
   E. They live on land
   F. Their babies are born alive

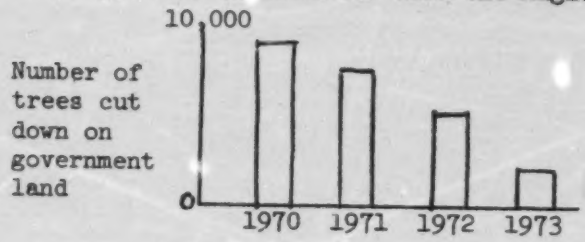
3. Look at the three pictures of people. Which people in each picture have power over other people in the picture? Mark the people with power by putting an X on their bodies. Tell why they have power over others in the blank under each picture.

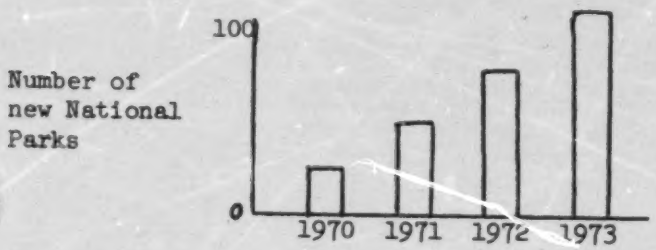
4. We have studied the idea of a whole. Which of the things listed (or pictured below) are not examples of a whole. Put a ✓ in the blank.

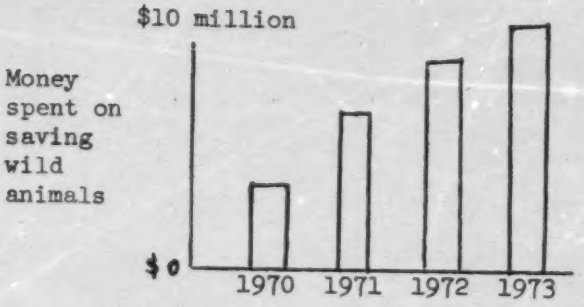
   ____1. a piece of pie
   ____2. an apple
   ____3. 1/2
   ____4. a full quart of milk
   ____5. a broken glass

5. In the space below write a short story showing a bunch of Muglumps starting a colony in Zuni. Tell what they do and why they do it.

6. Study the three charts below carefully. What one word or short sentence could you use to describe what the Muglumps are trying to do in Zuni now.







7. What are the characteristics of all _____.
List them below

8. Define in your own words and give one example and one non-example of the idea, _____.

Assessment

Name_____

1. In the space below define "concept" including attributes, examples and non-examples.

2. Select any "concept" you choose. State at least two defining relationships (attributes) for the concept, give at least two examples, and state one non-example of the concept.

3. List three functions of concepts below:

CHECKLIST #2A

CONCEPT LESSON

	MC	AC	NC
I. OBJECTIVES Pupil performance stated? ___Yes ___No Conditions stated? ___Yes ___No Criteria stated? ___Yes ___No			
II. PREASSESSMENT Did teacher preassess? ___Yes ___No Students who had already attained the concept were identified through preassessment. ___Yes ___No If yes, students who could meet objective were: ___utilized as teaching aides. ___dismissed from instruction to other activities.			
III. PERCEPTION The teacher enabled learners to identify the concept referent either by actual contact or by a vicarious experience. ___Yes ___No Referent was perceived by at least two senses: ___sight ___taste ___smell ___sound ___touch			
IV. CONCEPTUALIZATION The teacher provided at least two conceptualization activities to cause student to recall, to interput, and to organize his experience with the concept referent. ___Yes ___No			

CHECKLIST #2A

CONCEPT LESSON
(continued)

	MC	AC	NC
These activities were: 1. 2. 3. The teacher used positive reinforcement to make learners aware of having discovered the concept referent. ___Yes ___No Examples of verbal/non-verbal reinforcers used: (at least 3) 1. 2. 3.			
V. APPLICATION The teacher provided at least one learning activity for learners to apply the concept in a new situation. ___Yes ___No Application activities were: 1. 2. 3.			
VI. EVALUATION The teacher utilized formal/informal post-assessment procedures. ___Yes ___No ___had direct relationship to behavioral objective. ___provided for immediate feedback on student performance (same day). ___50% at least, of the students achieved stated performance of the objective.			

CRITERIA LIST #2B

NON-ORAL CONCEPT LESSON

	MC	AC	NC
I. OBJECTIVE Pupil performance stated? ___Yes ___No Conditions stated? ___Yes ___No Criteria stated? ___Yes ___No			
II. PREASSESSMENT Did teacher preassess? ___Yes ___No Students who had already attained the concept were utilized through preassessment. ___Yes ___No If yes, students who could meet objective were: ___utilized as teaching aides. ___dismissed from instruction to other activities. ___other:			
III. PERCEPTION Teacher enables learners to perceive concept referent either by actual contact or by vicarious experience. ___Yes ___No Referent was perceived by at least 2 senses: ___taste ___sight ___sound ___smell ___touch What materials were used to communicate the concept referent? 1. 2. 3. The teacher used at least two methods of non-verbal reinforcement to make learners aware of having discovered the concept referent. ___Yes ___No 1. 2. 3.			
IV. CONCEPTUALIZATION Teacher provided at least two conceptualizztion activities to cause students to recall, to interpret, and to organize their experience with the referent. ___Yes ___No			

CRITERIA LIST #2B

NON-ORAL CONCEPT LESSON
(continued)

	MC	AC	NC
What materials were used to communicate these experiences with the concept referent? 1. 2. 3. Teacher used at least 3 different positive reinforcers to make learners aware of having accomplished the concept activities. ___Yes ___No Examples of non-verbal reinforcers used: 1. 2. 3.			
V. APPLICATION Teacher provided at least one learning activity for learners to apply the concept in a new situation. ___Yes ___No Application activities used: 1. 2. 3. Materials used in the application activities: 1. 2. 3.			
VI. EVALUATION Teacher utilized formal/informal, non-oral post-assessment procedure. ___Yes ___No ___post-assessment had direct relationship to behavioral objective. ___provided for immediate feedback on students performance. ___at least 50% of the students achieved the performance stated in the objective.			

CRITERIA LIST #2B

NON-ORAL CONCEPT LESSON
(continued)

	MC	AC	NC
VII. PRESENTATION			
Teacher did not communicate orally. ___Yes ___No Teacher used at least two non-oral methods to communicate with students. ___Yes ___No Materials used: 1. 2. 3. Teacher used methods/materials which actively involved the students. ___Yes ___No ___students performed tasks. ___students were encouraged to converse with one another. ___other: Teacher chose learning activities which: ___were well-planned. ___closely followed the learning sequence. ___exhibited variety.			

CRITERION CHECKLIST # 1

INSTRUCTIONAL UNIT

	Excellent	Acceptable	Improvement Needed
I. RATIONALE AND GOAL STATEMENTS	///////	///////	///////
A. Rationale expressed with clarity.			
B. Terminology appropriate to level of students.			
C. Goal statements relevant, appropriate.			
II. BEHAVIORAL OBJECTIVES	///////	///////	///////
A. Behaviors of pupil performances are specified.			
B. Conditions under which the performance will occur are specified.			
C. Criteria or minimum level of achievement specified.			
D. At least half of the objectives written call for behaviors above the knowledge level of the cognitive taxonomy.			
III. CONCEPT STATEMENTS (Ideas to be learned)	///////	///////	///////
A. Concept statements reflect the knowledge components required to complete the performance stated in the behavioral objectives.			
B. The concept statements are sequenced in successive approximations demonstrating a task analysis.			
IV. PREASSESSMENT	///////	///////	///////
A. The preassessment identifies those pupils who can perform the behaviors without any instruction.			
B. The preassessment identifies those pupils who lack prerequisite skills to be able to begin this instructional sequence.			
C. The preassessment identifies appropriate entry levels within the instructional sequence to enable each student to begin instruction at his most appropriate level			
V. LEARNING ACTIVITIES	///////	///////	///////
A. Teaching strategies meet criteria of their respective checklists.			
B. Values clarification strategies meet criteria of their respective checklists.			
C. Materials used meet critiera of the Media Checklist.			
D. Behavior management strategies meet criteria of their respective checklists.			

CRITERION CHECKLIST #1

INSTRUCTIONAL UNIT
(continued)

	Excellent	Acceptable	Improvement Needed
VI. EVALUATION	///////	///////	///////
A. Evaluation instruments or procedures relate directly to performance statements of the behavioral objectives.			
B. At least 50% of pupils achieved the stated objectives.			
VII. QUEST	///////	///////	///////
A. At least 5 sample quest projects were suggested.			
B. Individual differences in learning style were provided for through a variety of suggested approaches.			
C. Instructions on how to begin a quest, resources available, deadlines, are clearly stated.			
D. The option for pupils to initiate their own quests is available.			
VIII. MEASURABLE AFFECTIVE INDICATORS	///////	///////	///////
A. At least 2 affective behaviors (measurable) identified.			
B. Behaviors called for are voluntary for pupils.			
C. Measurements are unobtrusive (pupils unaware they are being evaluated).			
D. Goal statement on the number of students to demonstrate the behaviors was appropriate.			

I. CRITERIA FOR LARGE GROUP AND SMALL GROUP LAB ORIENTED SCIENCE LESSONS USING DISCOVERY TEACHING.

A. THE PARTICIPANT WILL EXHIBIT AND/OR ELICIT THE FOLLOWING BEHAVIORS IN FIELD EXPERIENCE LESSONS:

YES	NO	% OF X's OR # OF KIDS	TEACHER DET X's OR %'s

1. KIDS ( ) MANIPULATED CONCRETE MATERIALS AT LEAST (_)% OF THE TIME.
2. KIDS ( ) COLLECTED CONCRETE DATA AT LEAST ( )% OF THE TIME THAT LED TO MEANINGFUL CONCLUSIONS.
3. KIDS ( ) USED CONCRETE DATA AT LEAST ( )% OF THE TIME TO SOLVE A TEACHER AND/OR STUDENT DETERMINED PROBLEM.
4. KIDS ( ) EXHIBITED TRIAL AND ERROR BEHAVIOR AND WERE ABLE TO SUSPEND JUDGMENT AT LEAST ( )% OF THE TIME.
5. KIDS ( ) TALKED WITH EACH OTHER ABOUT THEIR WORK.
6. (KIDS) ( ) LISTENED TO EACH OTHER CONCERNING EACH OTHERS WORK.
7. TEACHER REWARDED SEARCHING BEHAVIOR AT LEAST ( ) TIMES DURING THE LESSON.
8. TEACHER ACCEPTED MORE THAN "ONE RIGHT ANSWER" AND DIDN'T PUNISH WRONG ANSWERS BUT RATHER CAPITALIZED ON THEM FOR FURTHER DISCOVERY AT LEAST ( )% OR TIMES DURING THE LESSON.
9. TEACHER INCORPORATED AT LEAST ( ) OTHER DISIPLINE(S) IN THE LESSON.
10. TEACHER EMPLOYED AT LEAST ( ) METHOD(S) OF EVALUATION OF KID'S PERFORMANCE DURING THE LESSON.

ADDITIONAL SUBJECTIVE FEEDBACK FROM OBSERVER (NO GRADE, POSITIVE REINFORCEMENT, HELPFUL HINTS) TO BE GIVEN IN "DEBRIEFING SESSIONS" AFTER LESSONS.

1. DID IT APPEAR THAT KIDS ENJOYED (HAD FUN) DURING THE LESSON?
2. DID THE TEACHER ENJOY (FEELING COMFORTABLE) IN THIS SITUATION?
3. WERE SAFETY PRECAUTIONS OBSERVED?
4. OTHER
5.

II. CRITERIA FOR VALUE CLARIFYING LESSON

THE TEACHER WILL EXHIBIT AND/OR ELICIT THE FOLLOWING BEHAVIORS IN A FIELD EXPERIENCE LESSON:

YES	NO	% OF BEHAVIORS	TEACHER PREDETERMINED GOAL (%)	
				1. STUDENTS SHARED THEIR VALUES OR FEELINGS WITH THE CLASS OR GROUP
				2. STUDENTS RELATED PERSONAL ESPERIENCE
				3. STUDENTS SHARED EXPERIENCE OF SOMEONE ELSE THEY KNOW ABOUT.
				4. STUDENTS ASKED QUESTIONS OF OTHERS RELATED TO FEELINGS AND VALUES.
				5. STUDENTS TALKED TO EACH OTHER ABOUT THEIR VALUES AND FEELING.
				6. STUDENTS PROVIDE REASONS FOR THEIR VALUES AND FEELINGS (WITH AND WITHOUT BEING ASKED).
				7. TEACHER ACCEPTS FEELINGS OF STUDENT
				8. TEACHER MAKES MORAL JUDGEMENT OF HIS OWN TO THE CLASS.
				9. TEACHER MAKES VALUE CLARIFYING RESPONSES TO STUDENT CONTRIBUTIONS.
				10. TEACHER ASKS VALUE QUESTIONS.
				11. TEACHER ASKS PROBING QUESTIONS.
				12. TEACHER EMPLOYS TECHNIQUE TO STIMULATE VALUE DESCUSSION.
				13. TEACHER TAKES ADVANTAGE OF STUDENT INITIATED RESPONSE TO CLARIFY VALUES.
				14. TEACHER REINFORCES SHARING NOT ACTUAL VALUES OR FEELINGS.
				ADDITIONAL SUBJECTIVE FEEDBACK FROM OBSERVER (NO GRADE).

CONT.

YES	NO	% OF BEHAVIORS	TEACHER PREDETERMINED GOAL (%)

1. DID THE STUDENTS APPEAR TO BE INTERESTED?
2. DID THE TEACHER REFRAIN FROM MAKING MORAL JUDGEMENTS AND PRONOUNCEMENTS?
3. WAS THE LESSON APPROPRIATE AND CONDUCTED WITH BEST INTERESTS OF STUDENTS IN MIND?
4. OTHER
5.

University of Toledo

Course 312:340

Module 03: Social Studies Planning

Fall 1973 Revision/Ahern

Jack Ahern
Office hours: Mon. 1-3
Wed. 10-12
Fri. 4-6
Tel: 931-5711 ext. 2466
If no answer, leave message at ext. 2488.

Social Studies Planning Module
340 - 03

Terminal Objectives

Students will be able to justify the inclusion or ommission in an elementary social studies program of teacher designed curriculum units, concept attainment units, instructional programs for the teaching of social studies skills and/or value clarification exercises.

Enabling Objectives

Students will be able to:

1. Distinguish between introductory developmental and concluding activities.
2. When given a concept or topic, suggest appropriate introductory, developmental and conc ding activities.
3. Describe the advantages and options available when employing guest speakers, field trips, games, and student made media.
4. Describe materials appropriate for value clarification exercises.
5. Implement the Shaftel and Shaftel process for Role playing for social values.
6. List twenty value clarifying responses.
7. When given a social action concept, to list attributes and examples of the concept.
8. Distinguish between the Goal Setting, the Design, the Grouping and Scheduling Meeting and the Situational Meeting.
9. Create Task Groups for social studies skills using WKDR behavioral objectives and Royal McBee Cards.

Evaluation

Enabling Objective: paper and pencil test

Terminal Objective: Position paper describing the undergraduates ideal social studies program.

Criteria:

1. Definition of basic concepts in elementary social studies .

Demonstration of understanding of: teacher made curriculum units, the concept of attainment model, instructional systems model, and value clarification.
2. Use of evidence to support positions.
3. Logical consistency.
4. Clarity of thought.
5. Inclusion of details related to time and space considerations.
6. Articulation of the advantages of team teaching social studies.

Objectives 1 and 2.
(1) Distinguish between introductory developmental and concluding activities.
(2) When given a concept or topic, suggest appropriate introductory, developmental and concluding activities.

Means
1. Small group discussion to define social studies. Focus questions:
   a. What courses fulfill your social science requirements?
   b. What other courses are offered by those department?
   c. What do all those courses have in common?
   d. What would be a synonm word or phrase for social sciences?
   e. How would you define social studies?
   Closure: a group decision on a topic they would like to plan.

2. Lecture:
   a. The Social Studies Curriculum Unit. Focus: Definition by example of introductory, developmental and concluding activities.
   b. The Brainstorming Technique.

3. Practicum: small group brainstorms. Introductory, developmental and concluding activities for a curriculum unit.

Objective 3
(3) Describe the advantages and options available when employing guest speakers, field trips, games, and student made media.

Means
1. Independent activity: Read handouts:
   a. "Team Teaching Elementary Social Studies"
   b. "Guest Speakers"
   c. "Field Trips"
   d. "Student Made Media"
   e. "Games"

Objective 4.
(4) Describe materials appropriate for value clarification exercises.

Means
1. Independent activity: view display of value clarification materials in Carver Curriculum Center including: "Unfinished Stories" - booklet; "More Unfinished Stories" - booklet; Roleplaying for Social Values (4 copies on reserve) - text; "Exploring Moral Values" - firmstrips.

Objectives 5 and 6.

(5) Implement the Shaftel and Shaftel process for Roleplaying for social values.

(6) List twenty value clarifying responses.

Means

1. Independent activity: Read text Part III, pages 179-188. Complete a Roleplaying Planning Form, page 171. See page 173 for a sample completed form study handout on value charifying responses.
2. Lecture: Value Clarification.
   Rationale, Relationships to Inquiry.
   Types of Affective Categories, the teacher, Advisor in the Multi-Unit School. (During the lecture co-operating professors will review planning forms and note strengths and concerns)
3. Small groups: Feedback on planning forms by co-operating professor.
4. Small groups: Practicum. Students will implement their plan with peers demonstrating value clarifying responses.

Objective 7

(7) When given a social action concept, to list attributes and examples of the concept.

Means

1. Independent activity: Read Section I of the text.
2. Prepare a poster, haiku, crossword puzzle on concept attainment.
3. Small group discussion.
   a. Review: Concept of Concepts
   b. Define components of a concept attainment unit.
   c. Students who wish additional review of concepts will leave with Educ. Psych. professor.
   d. Display concept attainment creations.
   e. Discuss: Is this an appropriate learning activity for social studies concept attainment units? For value clarification?

Objective 8

(8) Distinguish between the Goal Setting, the Design, the Grouping and Scheduling Meeting and the Situational Meeting.

Means

1. Large group presentation:
   a. I.G.E. Planning System - sound filmstrip
   b. During the stops students will simulate the planning meetings focusing on a social action concept.

Objective 9

(9) Create Task Groups for social studies skills using WRDR behavioral objectives and Royal McBee Cards.

Means

1. Independent activity: Read handout on WRSD - study skills.
2. Lecture: The Instructional Programming Model and Its Application to Elementary Social Studies.
3. Practicum - Creation of task groups using Royal McBee Notched Cards.

University of Toledo

Course 312:340

Module 04: Selection and Application of Instructional Media in the Field

Fall 1973 Revision/Gentry and Beckwith

312:340

Module Four

I. Department/Context: Educational Media/Educational Technology

II. Subject: Selection and Utilization of Instructional Media

III. Title: Selection and Application of Instructional Media in the Field.

IV. Prerequisites: 312:328

V. Behavioral Objectives

A. General Objectives:

1. Given an instructional objectives and a description of student entering behaviors, to select the most appropriate media alternative that would complement the instructional strategy for meeting the objective.

2. Given an instructional strategy for meeting a specific objective with a specific student population, to correctly apply the media alternative(s) selected to complement the instructional strategy.

B. Specific Measurable Objectives:

1. Given The Instructional Media Selection Checklist to correctly identify the Media Related Questions that are relevant to a specific behavioral objectives and instructional strategy, without error.

2. Having determined the Media Related Questions most relevant to a specific behavioral objective and instructional strategy, to select the Potential Medium most relevant in terms of the objective, the instructional strategy, pupil entering behaviors, and resource and structural constraints on the novice teacher, without error.

3. Given a measurable behavioral objective to be taught to a specific group of students, an instructional strategy, and the Media Application Checklist, to correctly select the Criteria of Appropriate Use that apply to the specific objective and instructional strategy, with less than 10% error.

4. Given a critique by an observer using the Media Application Checklist, to correct any inappropriate uses of instructional media, without error.

VI. Instructional Activities:

A. For any field experience where the student has instructional responsibility, the student is required to provide the cooperating teacher and the college supervisor with specific measurable objectives for that instruction, criteria for determining whether the objective has been met, and two or more media alternatives that complement the instructional strategy selected to teach the objectives.

b. The students should study the Media Selection Checklist, and the Media Application Checklist until they feel confident that they understand the questions and how they would relate to a specific objective and group of students.

c. A procedure that would clarify the use of the two checklists, would be to take hypothetical objectives and student characteristics, and select appropriate media alternatives for them. Where obstacles arise, you should see a team member for clarification.

d. The steps in carrying out the requirements of this media field experience module would be:

1) Identify the objective to be taught.
2) Determine the significant characteristics of the students to whom the objective will be taught.
3) Select the questions in the Media Selection Checklist and the Media Application Checklist that are appropriate for your objective and pupils.
4) Determine two or more media appropriate for the specific objective, pupils, and instructional strategy chosen.
5) Report the objective and the media chosen to the cooperating teacher and/or college supervisor.
6) The college supervisor and/or cooperating teacher will provide corrective feedback via the checklists, after observing you carry out the media application with your pupil(s).
7) You will determine how you can correct the errors in the previous media selection and application, on the basis of their feedback.
8) During your next instructional responsibility, the college supervisor and/or cooperating teacher will critique your use of media, and provide corrective feedback to you again. This procedure will be repeated throughout your field experience.

CBTE

Field Experience

Instructional Media Selection Checklist

Directions: During your field experience, you will, on occasion, be responsible for teaching pupils. On those several occasions where you are responsible for developing the lesson plan yourself, we would like you to use this media selection instrument.

The most appropriate time for you to use this instrument is immediately after you have written or selected the behavioral objectives that you are to teach, and have developed or selected the criteria by which you will determine how successfully you have taught the objective.

Read each of the questions below, and for each question that is relevant to your objective(s), pupils, or instructional strategy, you will find several Potential Media on the left of the respective question. The lists below obviously do not exhaust either questions or Media.

Media Related Questions	Potential Media
1. For a pupil to meet your objective, is it important that an oral verbal stimulus be repeated several times?	Cassette audiotape Reel-to-reel audiotape Disk recording Teacher repeating
2. Is it important that a written verbal stimulus be repeated several times?	Opaque projection Overhead projection Transparency
3. Is it important that a non-verbal or visual stimulus be repeated for the pupil(s) several times?	Transparency Slide Videotape 8mm motion picture
4. Is it important for a pupil to analyze his own, or his classmates oral verbal behavior?	Cassette audiotape Reel-to-reel audiotape Pupil repeats
5. Is it important for a pupil to analyze his own, or his classmate's written verbal behavior?	Thermofax transparency Opaque projection Thermofax ditto Chalkboard
6. Is it important for a pupil to analyze his own, or his classmate's non-verbal behavior?	Videotape 8mm motion picture Pupil repeats Role playing

Media Related Questions	Potential Media
7. For a student to meet your objective is it deemed important that the student interact with other students?	Simulations Simulation Games Games Role Playing
8. It is important that a visual stimulus (verbal or non-verbal) be available for continued referral by students?	Chalkboard Duplicated materials Bulletin board display
9. Is group pacing necessary for meeting one or more of your objectives?	Models or mockups 16mm motion picture Overhead transparency slides Filmstrips Television Teacher lecturing
10. Is Individual or self-pacing important for one or more of your students, in meeting your objective(s)?	Programed instruction Workbooks slide/tape program 8mm concept film models realia graphic charts diagrams filmstrip cartoons
11. To meet your objective(s), is it important for pupils to manipulate real objects or model objects?	Models Real objects globes puppets specimens Flannel or magnetic boards Construction materials
12. To meet your objective, should any of the visual or aural instructional stimuli be of high fidelity?	Stereo disks 16mm films flat pictures Paintings Realia
13. Are periodic or continuous interest maintenance techniques required for any of the pupils learning your objective?	Display materials Simulation games Games/puzzles Motion pictures Posters Cartoons Behavioral Modification techniques

Media Related Questions	Potential Media
14. Is it important to abstract or summarize data in order to facilitate pupil learning of your objectives?	Graphs charts diagrams computer assisted management Transparency
15. Is a motivational springboard necessary?	16mm motion picture Transparency Slide(s) Realia Flat picture Disk Audiotape Duplicated materials

CBTE

Field Experience

Instructional Media Application Checklist

Directions: This instrument was designed to guide the cooperating teacher's, college supervisor's, and the novice teacher's evaluation of the novice teacher's basic competency in using specific instructional media to teach specific objectives.

The major referents that the user of this checklist should keep in mind when using this checklist are; 1) the objective being taught, 2) the characteristics of the learners, and 3) the resource and structural constraints on the novice teacher.

A "medium," broadly defined by us in any means of presenting instructional stimuli. The center column in the checklist below includes the most common media used in instruction, although by no means is the list exhaustive. The right hand list, under Criteria of Appropriate Use, focuses on questions which point up inappropriate uses of media. To the left is a scale ranging from the most appropriate use of media to the most inappropriate use. On the basis of the questions, the cooperating teacher and/or the college supervisor will evaluate the media application, relating a question to a particular medium, by circling appropriate letters under the medium.

Once the appropriate letter(s) have been circled for each medium utilization observed, the evaluator will rate the utilization by circling the appropriate number in the left hand column. This Checklist is also regarded as useful to the novice teacher as a guide when developing strategies for meeting objectives, as well as a means of debriefing a novice teacher following his instruction.

Finally, users should note that the first section of the Checklist focuses on the use of media with a group(s), while the second section is concerned with individual student use of media. The media are further divided into "visual media" and "Aural media".

Use of Media with Groups

Most Appr				Most Inappr	Visual Media	Criteria of Appropriate Use
1	2	3	4	5	1. Overhead projection a b c d e f g h	a. Photographic, drawing, or verbal message not readable by most distant student.
1	2	3	4	5	2. Opaque projection a b c d e f g h	b. One or more student's view of the message is obstructed.

Most Appr				Most Inappr	Visual Media	Criteria of Appropriate Use
1	2	3	4	5	3. Slide projection a b c d e f g h	c. Extraneous light not controlled to prevent fading of the message.
1	2	3	4	5	4. Filmstrip projection a b c d e f g h	d. So much detail used in the visual that a student would be confused.
1	2	3	4	5	5. Motion Pictures a b c d e f g h	e. Another available medium be more appropriate.
1	2	3	4	5	6. Television a b c d e f g h	f. Inadequate operation of the equipment interferes with the reception of the message.
1	2	3	4	5	7. Chalkboard a b c d e f g h	g. The content of the medium is not appropriate for the objective.
1	2	3	4	5	8. Models or mockups a b c d e f g h	h. The content of the medium is not appropriate for the entering behavior of the pupil.
1	2	3	4	5	9. Use of real objects a b c d e f g h	
1	2	3	4	5	10. Bulletin boards a b c d e f g h	
1	2	3	4	5	11. Wall maps a b c d e f g h	
1	2	3	4	5	12. Other visual media a b c d e f g h	
					Aural Media	
1	2	3	4	5	13. Teacher's voice a b c d e f g	a. The aural message cannot be distinctly heard by the most distant student.
1	2	3	4	5	14. Cassette audiotape a b c d e f g	b. Recorded background noise interferes with the recorded aural message.
1	2	3	4	5	15. Reel-to-reel audiotape a b c d e f g	c. Classroom background noise interferes with reception of the aural message.

Most Appr	Most inappr	Aural Media	Criteria of Appropriate Use
1 2 3	4 5	16. Disk recordings a b c d e f g	d. Inadequate operation of audio equipment interferes with reception of the aural message.
1 2 3	4 5	17. Motion picture sound a b c d e f g	e. Another available medium would be more appropriate
1 2 3	4 5	18. Television sound a b c d e f g	f. The content of the medium is not appropriate for the objective.
1 2 3	4 5	19. Radio a b c d e f g	g. The content of the medium is not appropriate for the entering behavior of the students.

Use of Media with Individuals

Most Appr	Most inappr	Visual Medi	Criteria of Appropriate Use
1 2 3	4 5	20. Worksheet or book a b c d e f g h i	a. Photographic, drawing, or verbal message not readable by the pupil.
1 2 3	4 5	21. Programed instruction a b c d e f g h i	b. Too much visual detail causes pupils to be confused.
1 2 3	4 5	22. Slide projection a b c d e f g h i	c. Extraneous light not controlled to prevent fading of the visual message.
1 2 3	4 5	23. Filmstrip projection a b c d e f g h i	d. Directions to the students regarding the individual use of the media are not adequate.
1 2 3	4 5	24. Motion pictures a b c d e f g h i	e. Feedback to the pupil from either teacher or the program is not adequate.
1 2 3	4 5	25. Models a b c d e f g h i	f. Another available medium would be more appropriate.
1 2 3	4 5	26. Real Objects a b c d e f g h i	g. Inadequate operation of the equipment interferes with the instructional messages.
1 2 3	4 5	27. Graphs or charts a b c d e f g h i	h. The content of the medium is not appropriate for the objective.
1 2 3	4 5	28. Diagrams a b c d e f g h i	

Most Appr				Most inappr	Visual Media	Criteria of Appropriate Use
1	2	3	4	5	29. Cartoons a b c d e f g h i	i. The content of the medium is not appropriate to the entering behavior of the pupils.
1	2	3	4	5	30. CAI programing a b c d e f g h i	
					Aural Media	
1	2	3	4	5	31. Cassette audiotape a b c d e f g	a. Aural message not distinct.
1	2	3	4	5	32. Reel-to-reel audiotape a b c d e f g	b. Recorded background noise interferes with message.
1	2	3	4	5	33. Disk recordings a b c d e f g	c. Classroom background noise interferes with message.
1	2	3	4	5	34. Motion picture sound a b c d e f g	d. In adequate operation of audio equipment interferes.
1	2	3	4	5	35. Videotape sound a b c d e f g	e. Other available media would be more appropriate.
						f. The content of the medium is not appropriate for the objectives
						g. The content of the medium in not appropriate for the entering behaviors of the pupils.

CBTE

Field Experience

Instructional Media Application Checklist

Directions: This instrument was designed to guide the cooperating teacher's, college supervisor's, and the novice teacher's evaluation of the novice teacher's basic competency in using specific instructional media to teach specific objectives.

The major referents that the user of this checklist should keep in mind when using this checklist are; 1) the objective being taught, 2) the characteristics of the learners, and 3) the resource and structural constraints on the novice teacher.

A "medium," broadly defined by us in any means of presenting instructional stimuli. The center column in the checklist below includes the most common media used in instruction, although by no means is the list exhaustive. The right hand list, under Criteria of Appropriate Use, focuses on questions which point up inappropriate uses of media. To the left is a scale ranging from the most appropriate use of media to the most inappropriate use. On the basis of the questions, the cooperating teacher and/or the college supervisor will evaluate the media application, relating a question to a particular medium, by circling appropriate letters under the medium.

Once the appropriate letter(s) have been circled for each medium utilization observed, the evaluator will rate the utilization by circling the appropriate number in the left hand column. This Checklist is also regarded as useful to the novice teacher as a guide when developing strategies for meeting objectives, as well as a means of debriefing a novice teacher following his instruction.

Finally, users should note that the first section of the Checklist focuses on the use of media with a group(s), while the second section is concerned with individual student use of media. The media are further divided into "visual media" and "Aural media".

Use of Media with Groups

Most Appr				Most Inappr	Visual Media	Criteria of Appropriate Use
1	2	3	4	5	1. Overhead projection a b c d e f g h	a. Photographic, drawing, or verbal message not readable by most distant student.
1	2	3	4	5	2. Opaque projection a b c d e f g h	b. One or more student's view of the message is obstructed.

Most Appr	Most Inappr	Visual Media	Criteria of Appropriate Use
1 2 3 4 5		3. Slide projection a b c d e f g h	c. Extraneous light not controlled to prevent fading of the message.
1 2 3 4 5		4. Filmstrip projection a b c d e f g h	d. So much detail used in the visual that a student would be confused.
1 2 3 4 5		5. Motion Pictures a b c d e f g h	e. Another available medium be more appropriate.
1 2 3 4 5		6. Television a b c d e f g h	f. Inadequate operation of the equipment interferes with the reception of the message.
1 2 3 4 5		7. Chalkboard a b c d e f g h	g. The content of the medium is not appropriate for the objective.
1 2 3 4 5		8. Models or mockups a b c d e f g h	h. The content of the medium is not appropriate for the entering behavior of the pupil.
1 2 3 4 5		9. Use of real objects a b c d e f g h	
1 2 3 4 5		10. Bulletin boards a b c d e f g h	
1 2 3 4 5		11. Wall maps a b c d e f g h	
1 2 3 4 5		12. Other visual media a b c d e f g h	
		Aural Media	
1 2 3 4 5		13. Teacher's voice a b c d e f g	a. The aural message cannot be distinctly heard by the most distant student.
1 2 3 4 5		14. Cassette audiotape a b c d e f g	b. Recorded background noise interferes with the recorded aural message.
1 2 3 4 5		15. Reel-to-reel audiotape a b c d e f g	c. Classroom background noise interferes with reception of the aural message.

Most Appr	Most inappr	Aural Media	Criteria of Appropriate Use
1 2 3 4 5		16. Disk recordings a b c d e f g	d. Inadequate operation of audio equipment interferes with reception of the aural message.
1 2 3 4 5		17. Motion picture sound a b c d e f g	e. Another available medium would be more appropriate
1 2 3 4 5		18. Television sound a b c d e f g	f. The content of the medium is not appropriate for the objective.
1 2 3 4 5		19. Radio a b c d e f g	g. The content of the medium is not appropriate for the entering behavior of the students.

Use of Media with Individuals

Most Appr	Most inappr	Visual Medi	Criteria of Appropriate Use
1 2 3 4 5		20. Worksheet or book a b c d e f g h i	a. Photographic, drawing, or verbal message not readable by the pupil.
1 2 3 4 5		21. Programed instruction a b c d e f g h i	b. Too much visual detail causes pupils to be confused.
1 2 3 4 5		22. Slide projection a b c d e f g h i	c. Extraneous light not controlled to prevent fading of the visual message.
1 2 3 4 5		23. Filmstrip projection a b c d e f g h i	d. Directions to the students regarding the individual use of the media are not adequate.
1 2 3 4 5		24. Motion pictures a b c d e f g h i	e. Feedback to the pupil from either teacher or the program is not adequate.
1 2 3 4 5		25. Models a b c d e f g h i	f. Another available medium would be more appropriate.
1 2 3 4 5		26. Real Objects a b c d e f g h i	g. Inadequate operation of the equipment interferes with the instructional messages.
1 2 3 4 5		27. Graphs or charts a b c d e f g h i	h. The content of the medium is not appropriate for the objective.
1 2 3 4 5		28. Diagrams a b c d e f g h i	

Most Appr	Most Inappr	Visual Media	Criteria of Appropriate Use
1 2 3 4 5		29. Cartoons a b c d e f g h i	i. The content of the medium is not appropriate to the entering behavior of the pupils.
1 2 3 4 5		30. CAI programing a b c d e f g h i	
		Aural Media	
1 2 3 4 5		31. Cassette audiotape a b c d e f g	a. Aural message not distinct.
1 2 3 4 5		32. Reel-to-reel audiotape a b c d e f g	b. Recorded background noise interferes with message.
1 2 3 4 5		33. Disk recordings a b c d e f g	c. Classroom background noise interferes with message.
1 2 3 4 5		34. Motion picture sound a b c d e f g	d. In adequate operation of audio equipment interferes.
1 2 3 4 5		35. Videotape sound a b c d e f g	e. Other available media would be more appropriate.
			f. The content of the medium is not appropriate for the objectives
			g. The content of the medium in not appropriate for the entering behaviors of the pupils.

University of Toledo

Course 312:340

Module 05: Self-management

Fall 1973 Revision/Cohen

312:340

Module Five

1. Department/Context: Contemporary Learning - Teaching Process

2. Subject/Topic: Self-management

3. Title: Self-management

4. Prerequisites: 312:328 Module 3, strategies for changing behavior and implementing behavior change.

5. Overview: This module is designed to help you change your own behavior. As you know, the teacher's behavior has a profound influence on the student's behavior. Effective teachers are not only aware of their own behavior but can change and sustain changes in their own behavior that enhance student learning.

6. Objectives:

   A. General Objectives:

      1. You should understand that strategies for changing student behavior also apply to others. Therefore, you can pinpoint, record, consequence, and evaluate a change in one of your classroom teaching behaviors.

   B. Specific Objectives:

      TPO 1. Given a list of some of your own teaching behaviors that the cooperating teacher and facilitator would like to see you change, you will be able to:

      1. Pinpoint one behavior to be changed.
      2. Take at least four different samples of behavior. Each must be for at least 20 minutes and no more than two on the same day. At least one sample must be verified by a reliability observer with an agreement index of at least 80%.
      3. Select at least one positive consequence and implement it consistently to produce a five fold change in the pinpointed behavior.
      4. Sustain the changed behavior for at least six consecutive samples of that behavior with no more than the twenty minute samples per day. (At least one reliability check with an agreement index of at least 80%).
      5. Chart the pinpointed behavior, after removing the consequences, for at least six consecutive samples with no more than two twenty minute samples per day in order to evaluate the result of the procedure. (Reliability check at least once) with an agreement index at least 80%.

      MC=no errors of omission or commission.

      AC=no errors of omission or commission but only a three-fold change in the traget behavior.